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APRIL 3, 1967



**FARM MECHANIZATION: ONE
KEY TO MEETING FOOD NEEDS**

**AGRICULTURE'S POSITION
IN MAINLAND CHINA'S ECONOMY**

FRENCH WHEAT EXPORTS DOWN

FOREIGN AGRICULTURE

Including FOREIGN CROPS AND MARKETS

**A WEEKLY MAGAZINE OF THE UNITED STATES DEPARTMENT OF AGRICULTURE
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Including FOREIGN CROPS AND MARKETS

APRIL 3, 1967

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Turkish farmer, driving his new tractor, is learning how use of farm machinery can improve food output. For a worldwide picture of farm mechanization, see story beginning on opposite page.

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Farm Mechanization: One Key To Meeting Food Needs

—but only 7 percent of the world's tractors, an indicator of the level of mechanization, are in the regions most in need of increasing food supplies.

Land and labor, once the answer to increasing man's food supply, are diminishing in importance as the pressures of meeting world food needs become greater. Whereas at one time, producing more food meant opening new lands to cultivation, the amount of new land in today's densely populated world is limited, and much of it would be costly to develop. In many countries, farm labor forces have likewise declined. The answer now lies principally in the application of science and technology to existing croplands to make them more productive.

One of science's chief contributions to agriculture has been in farm mechanization. Use of tractors and other machinery has brought higher yields through more intensive cultivation. With their greater speed and capacity, they have permitted farmers to time tilling, planting, and harvesting to take advantage of favorable weather.

In addition, they have to some extent replaced draft animals, permitting the land once used to support these

animals to be diverted to production of food as well as of feeds that eventually produce such animal products as meat, milk, and eggs.

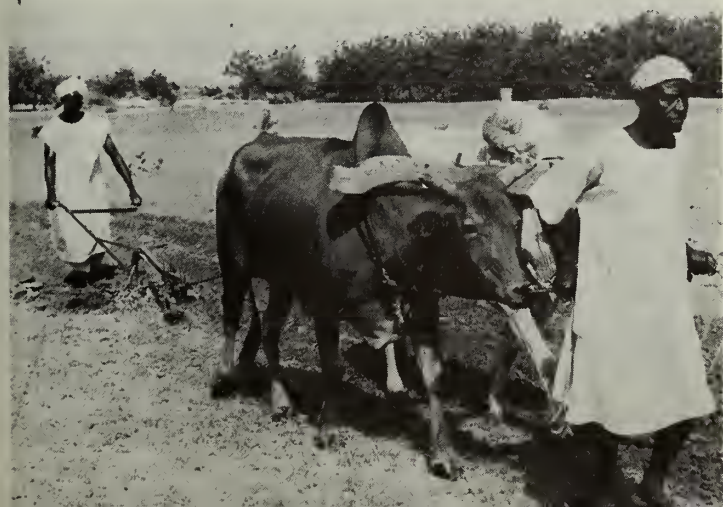
Developed countries forge ahead

The mechanization of agriculture has been rapid in the developed countries—those with abundant capital, declining farm labor forces, sufficient fuel at relatively low prices, and large farm units. Here, tractors have not only helped raise yields, but have also substituted to a great extent for labor as a farm input, permitting greater output per worker.

In less developed countries, where labor is still more abundant than capital and fuel and individual farms are frequently small, mechanized farming has generally been restricted to plantation crops, while the widespread application of machinery to the production of other crops lies in the future.



Three stages in development of farm equipment: counter-clockwise from below, bullocks pull simple plow in Niger, power tiller outdoes water buffalo in Taiwan rice paddy, Austrian farmer harvests grain with tractor-drawn combine.





Modern and traditional methods of rice cultivation in Japan. Tractor, left, is especially adapted for use in rice paddies. Below left, wheat in background will be harvested and rice planted, for two grain crops each year.



The number of tractors used in agriculture in any region can serve as a general indication of its level of farm mechanization. On a worldwide basis, tractor use rose by over 60 percent between 1954 and 1964. However, less than 10 percent of the rise was in the less developed regions, those most in need of greater food output. The developed regions—North America, Europe, the Soviet Union, Oceania, and Japan—have 15 times more tractors per unit of arable land than the less developed ones—Latin America, most of Asia, and Africa.

Fast mechanization of North American farms actually began in the late 1930's and was virtually completed by the midfifties. Thus, in the decade 1955-64, when other parts of the developed world were seeing large increases in tractor use, the number of machines in this region rose by only 8 percent. At over 5.2 million or more than one per farm, they have now reached the saturation point. The number of horses and mules in North America declined from about 9.4 million in the early fifties to 4.5 million in 1963-64.

Tractors up, horses down in Europe

Western Europe has experienced the most rapid increase in farm mechanization in the period since the mid-1950's. This region had 1½ times more tractors in 1965 than in 1955, while horse numbers declined from 9.2 million in 1953-54 to 5.9 million in 1962-63. In West Germany, the number of tractors per unit of arable land rose from 16

in 1950 to 120 in 1962, and in Austria, from 10 to 98.

The overall increase in Eastern Europe and the Soviet Union was only slightly less rapid than in Western Europe, but this region still has far fewer tractors per unit of arable land. Czechoslovakia showed the most rapid rise in the 1954-63 period—from 31,000 to 162,000. In the Soviet Union, tractor numbers almost doubled between 1956 and 1965. Many of these units went to new croplands opened up in the mid-1950's in Siberia, the Urals, Volga, and Kazakhstan. As in other developed regions, horse and mule numbers in Eastern Europe and the Soviet Union have declined since the early 1950's.

Oceania by 1964 possessed 386,000 tractors, up from an average 178,000 in the period 1949-52. In Australia alone, the number increased by almost two-thirds between 1953 and 1963, while horse numbers in 1963-64 were only about half the level of the early 1950's.

A view of farm mechanization in the developed countries cannot overlook Japan, where tractor numbers rose from 35,000 in 1954 to 2.4 million in 1964. Horse numbers moved radically in the other direction, declining from over 1 million in the early 1950's to 396,000 in 1963-64. Whereas conserving farm labor was probably the chief factor in farm mechanization in other developed countries, in Japan—where labor was abundant and land was not—mechanization was designed specifically to increase yields. Most of the rise in tractor use between 1954 and 1964 came in small garden tractors, the main type used by farmers in the country.

Developing regions face obstacles

Use of modern technology on farms is progressing in the less developed regions, too, but it remains limited. In these regions as a whole, the rise in farm machinery use has not been accompanied by a decline in draft animal numbers.

The developing regions face many obstacles to farm mechanization beyond the production of plantation crops like sugar and cotton. Individual land holdings are small and frequently noncontiguous. Machinery and fuel are expensive, so that mechanization would likely require some system of cooperative ownership. Even if machinery were available, farm personnel would have to be trained to operate it efficiently and effectively. Labor is abundant, so the major problem in producing sufficient food lies not in saving man hours, but in raising yields.

TRACTORS USED IN AGRICULTURE

Region	Increase		
	1954	1964	1954-64
	<i>Thousands</i>	<i>Thousands</i>	<i>Percent</i>
Western Europe	1,590	4,160	162
Eastern Europe and USSR	865	2,139	147
North America	4,827	5,215	8
Oceania	250	385	54
Japan ¹	1	17	1,616
Total, developed countries	7,533	11,916	58
Latin America	218	488	124
Far East ²	30	88	193
Near East	55	111	102
Africa	143	230	61
Total, developing countries	446	917	106
World total	7,979	12,833	61

¹The table excludes garden tractors, which in Japan are the main type used in agriculture and rose from 35,000 in 1954 to 2.4 million in 1964. ²Excluding Japan.
The State of Food and Agriculture, 1965; Food and Agriculture Organization of the United Nations.

While the walking garden tractors used so successfully in Japan would work well in many of the developing countries, they are too small for heavy soils. Many economists recommend that developing countries first introduce improved farm equipment operated by manual and animal labor. Combined with other scientific contributions—like fertilizers and pesticides—these would help to raise yields while the problems of mechanizing agriculture are worked out.

Demand for tractors and other farm machinery in many less developed countries is too limited to make domestic production economical, as it requires such resources as iron, steel, and power. Some countries, however, set up plants for assembling tractors from initially imported components and are now producing many of the parts domestically as well.

Latin America leads developing regions

Of the less developed regions, Latin America is most advanced in tractor use. A large portion of the continent's 488,000 machines (1964) are in Argentina, where numbers rose from 40,000 in 1954 to 110,000 in 1964. Only three countries in Latin America—Argentina, Brazil, and Mexico—have facilities for assembling tractors. In Brazil, the industry uses domestically produced components almost entirely. Argentina's six plants, with a total capacity of about 10,000 units, import 20 percent of their components, and Mexico's two plants, capable of producing 3,500 units annually, import 40 percent.

A count in the Near East showed 111,000 tractors in 1964, up from 55,000 in 1954. About half were in Turkey and the United Arab Republic (Egypt). The number in Israel has almost trebled in the decade 1956-65.

Most countries in the Far East, where land holdings are frequently very small, use few tractors in agriculture. In 1964, they numbered only 88,000, excluding Japan. India and the Philippines both have facilities for assembling the machines. In India, this is done largely with domestically produced components, while in the Philippines, the parts are chiefly imported. A joint domestic-foreign concern in Taiwan produces enough small motor tillers to meet domestic needs, with a sizable surplus for shipment to other countries.

Mainland China opened its first big tractor plant in 1959.

WORLD NUMBERS OF SELECTED DRAFT ANIMALS

Region	Horses	Mules	Donkeys
Europe and USSR:	Thousands	Thousands	Thousands
1947-48/1951-52	16,900	2,100	2,900
1963-64	9,900	1,800	2,500
North America:			
1947-48/1951-52	7,000	2,400	.....
1963-64	3,500	1,000	.....
Latin America:			
1947-48/1951-52	23,100	6,200	6,500
1963-64	22,900	8,000	8,200
Near East:			
1947-48/1951-52	2,200	800	6,600
1963-64	2,600	1,100	8,200
Far East:			
1947-48/1951-52	4,300	200	2,100
1963-64	3,700	100	2,000
Africa:			
1947-48/1951-52	2,900	1,600	7,200
1963-64	3,300	1,900	8,900
Oceania:			
1947-48/1951-52	1,300	.....	.....
1963-64	700	.....	.....

Compiled from statistics of the Food and Agriculture Organization of the United Nations.

By 1963, the country's tractor numbers had increased to 110,000 from only 5,000 in 1954.

The rise in use of tractors has been slower in Africa than in any other developing region, only 61 percent in the period from 1954 to 1964. Most of it has come in South Africa, which boasted more than half the continent's 1964 total of 230,000.

World Production of Castorbeans Declines

All major producers of castorbeans harvested smaller crops last year, with the exception of the Soviet Union and possibly Mainland China.

At an estimated 717,000 short tons, world output was one-sixth below the 1965 level. Brazil remained the leading producer with 255,000 tons, down from 391,000 in 1965. The Soviet Union's output was up 14 percent to 80,000 tons, virtually eliminating the need for oil imports this year. India came next with 78,485 tons, followed by the United States with 24,000.

Exports of castorbeans and castor oil, oil-equivalent basis, declined sharply from the record level of 1965, largely because of reduced exports of oil from Brazil and, to a lesser extent, from India. Based on incomplete data, exports are estimated at about 185,000 tons, oil basis, compared with an estimated 226,000 in 1965.

Oil exports declined by almost 40 percent. Those from Brazil, chief exporter, were not expected to exceed 100,000 tons, compared with 154,523 in 1965. However, shipments of beans rose by almost 50 percent, mainly because of the large volume moving out of Mainland China. China became the world's leading exporter in 1966, shipping out 50,000 tons according to unofficial estimates.

The United States is the world's leading importer and consumer of castorbeans and castor oil. In recent years, virtually all imports have been in the form of oil, largely from Brazil, but last year imports of beans rose and those of oil declined. Total imports in 1966 were 52,486 tons, oil basis, about one-fifth below those of 1965.

Industrial consumption of castor oil in the United States, which averaged 128 million pounds during 1955-59, has risen considerably to an estimated 158 million in 1966.

French Wheat Exports Off Sharply, May Not Improve Next Season

The short French wheat crop of 1966 has forced a sharp slowdown in the country's wheat exports this season—a slowdown that will continue through 1967-68 if current forecasts of a small 1967 wheat crop materialize.

French wheat exports in the marketing year ending this June are expected to be no more than 2.2 million metric tons (80.7 mil. bu.)—some 46 percent below the 4.1 million tons (149 mil. bu.) shipped abroad during 1965-66. In addition, exports of wheat flour will probably not exceed half a million tons (grain equivalent) compared with 700,000 in 1965-66.

Small 1966 wheat crop

Reason for this fall in exports is the rather poor crop harvested in 1966, which totaled only 11,152,000 tons (409 mil. bu.) compared with the 1965 record of 14,675,000 tons (538 mil. bu.). Wet weather, which delayed the planting season, reduced the planted area; yields per acre fell as a result of unfavorable weather during the growing season, coupled with a shift in acreage to lower yielding spring varieties.

As a result of this lower crop, France during 1966-67 will probably have to reduce its carryover stocks some 11 million bushels below the 3 months' supply (outside mills) that is considered normal. This drawdown is necessary if France is to maintain traditional commercial markets in Europe, fulfill its wheat agreement with the Soviet Union, and meet the expanded needs of drought-stricken North Africa, which is generally considered a natural outlet for French wheat.

Biggest single purchaser of French wheat in 1966-67 has been the USSR, which held contracts totaling 1.2 million tons before the harvest of its huge 1966 wheat crop. These purchases were intended for Eastern Europe to which the USSR was obligated to supply wheat under bilateral agreements.

At the beginning of the 1966-67 marketing year, some 700,000 tons (25 mil. bu.) of this wheat remained to be shipped. Most of this went to East Germany, Czechoslovakia, and Poland.

These countries, with fairly good crops of their own and some purchases from Soviet production, needed less French wheat than had been anticipated. As a result, France agreed to delay shipment of the remaining grain until the 15th of February. And Poland, because of its indirect

purchase of French wheat, did not take the 300,000 tons it normally buys from France under terms of French-Polish bilateral trade agreements.

Reportedly, the Soviet purchasing agency also requested French approval for taking up to 115,000 tons of the contracted wheat in the form of flour for shipment to Cuba. However, France did not agree to this.

1967 wheat crop prospects

Prospects for the 1967 wheat crop are not particularly bright. Wet weather last fall again delayed soil preparation and seeding and reduced the area sown to winter wheat; acreage to be harvested in 1967 is not expected to exceed the reduced 1966 acreage to any significant extent. Relatively mild weather during January and February did permit farmers to seed a substantial acreage of "alternative" varieties of wheat; by March 1 the total area sown to wheat was the same as a year earlier although still 10 percent below the 1962-66 average. It is not likely that farmers can seed much more spring wheat than they did last year.

Thus, we can expect that not more than 10 million acres of wheat will be harvested in 1967. Assuming the yield per acre reaches 44 bushels, slightly above last year's, about 12 million tons (440 million bu.) would be harvested. On the basis of the present crop condition, some members of the French grain trade are doubtful that the crop will even reach 12 million tons.

If these early-season forecasts are borne out, it seems probable that wheat and flour exports in 1967-68 will be no larger than the current season's and very likely will be somewhat smaller.

—HAROLD L. KOELLER

Assistant U.S. Agricultural Attaché, Paris

Thai-Dutch Firm To Build Canned-Milk Plant

Thailand's Board of Investment has granted investment-promotion privileges to the Alaska Milk Company, Ltd., for construction of a canned-milk plant.

Composed of 51 percent Thai and 49 percent Dutch interests, the company has a registered capital of nearly \$500 million and a working capital of about \$1½ million. The Dutch investors will be represented by the Holland Canned Milk Company, producer of "Alaska" brand condensed and evaporated milk, which Thailand currently imports. Alfa Laval of West Germany will supply and install the equipment, and the Netherlands will send technicians to start the operation and train employees.

The plant is to be completed in 15 months. Initial capacity will be 1.2 million cases (48 x 14 oz.) of sweetened condensed milk annually, but capacity could be doubled if warranted. This should reduce Thailand's imports of sweetened condensed milk, which totaled about 83 million pounds and were valued at over \$13.5 million in 1965. Later, the plant will also produce evaporated milk.

The firm will use imported nonfat dry milk and domestic sugar and vegetable oil in production of canned milk. Between 1962 and January 1966, 12 firms applied to the Board of Investment for industrial-promotion privileges. Only two plants granted privileges under this program have been completed and are marketing their products.

FRENCH WHEAT EXPORTS

Destination	Forecast	
	1965-66	1966-67
	<i>Metric tons</i>	<i>Metric tons</i>
Wheat:		
EEC countries	700	500
North Africa	286	500
Other former French Africa	176	200
Other non-EEC	2,895	1,000
Total wheat	4,057	2,200
Flour: ¹		
French overseas territories	103	100
Former French Africa	70	70
Other non-EEC	580	330
Total flour	753	500
Total wheat and flour	4,810	2,700

¹In wheat equivalent.

Agriculture's Position in Mainland China's Economy

The following article, written by MARION R. LARSEN, Foreign Regional Analysis Division, Economic Research Service, is an excerpt from his study "China's Agriculture Under Communism," which forms part of a recently published two-volume report entitled: An Economic Profile of Mainland China. Studies Prepared for the Joint Economic Committee, Congress of the United States. This report is sold by the Superintendent of Documents, Washington, D. C. 20402. The price of Volume I is \$1.00; Volume II, which contains a large map, costs \$1.25.

Mainland China, the world's third largest country, is the world's second largest agricultural producing country after the United States. With only 7.8 percent of the world's cultivated area, it supports almost one-fourth of the world's population.

This unfavorable population-land balance, which provides less than 0.4 of an acre of cultivated land per person, has been a major deterrent to the country's economic progress. Between 80 and 85 percent of the population is engaged in farming, and agriculture currently supplies between one-third and one-half of the national income. Agriculture also supplies the bulk of the raw materials base: farm products and finished manufactures made of agricultural raw materials constitute 60-70 percent of total exports.

Despite China's ability to produce every kind of farm crop and most types of livestock, the country's agriculture is in a stagnant state. During the first decade of Communist rule, the government claimed a small surplus, but beginning in 1961 the country became a net importer of agricultural raw products, primarily grains.

These imports, largely wheat, provided about 5 percent of the caloric intake from grain in 1964. And in the last few years they have trended upward despite a substantial increase in China's production of grains since the food crisis of 1959-61. Formerly, exports of agricultural commodities provided China with substantial amounts of foreign exchange. However, it is estimated that during the years immediately following 1960 from 35 to 45 percent of the country's foreign earnings have been used annually to pay for grain imports.

Gains made, drop follows

During the first decade of Communist rule substantial gains were made toward fulfilling the Communist model without materially affecting the productive powers of agriculture. This, however, does not imply that a healthy agriculture existed in China during this time. Although the imposition of the collectivization model of the Soviets, which came late in the decade, created numerous administrative problems, a sufficiently reasonable balance was maintained with respect to soil fertility, traditional farming methods, farming implements, draft power, and peasant incentive to register overall gains in agricultural production almost each year. Substantial gains were made in foreign trade too, with exports of agricultural products reaching an alltime high—but at the expense of consumption.

Central planning, the core of Communist control of production and utilization and a bone of contention for cadres and peasants, became the overriding factor in the

reckless adventure of the Great Leap Forward (1958-60). Under the authoritative mantle officials ignored traditional farming cultures, which in time badly upset one of the most intricate farming systems known in history. This further disrupted the delicate balance between population and agricultural resources. Unfavorable weather during 1959-61 helped to bring about a drop in farm output to a dangerously low level. This contributed to a near collapse of the economy, slowed down the industrialization effort, greatly reduced foreign trade turnover, and radically altered the pattern of trade with the Communist and the Free World.

The long road back

Following 2 years of devastating reverses in agriculture the Communist regime—too late to stave off a third successive bad year in 1961—adopted a new economic policy early that year of "agriculture as the foundation and industry as the leading factor in the economy." This orientation was designed to generate a quick recovery of agriculture so that the long-range program of industrializing the country could be resumed.

So far the results have been a sluggish upturn, but not a recovery of the economy. First indications of improved conditions appeared in the latter part of 1961. Three years later, in 1964, the official description was of "adjustment" and "balancing" compared with "recuperation" which was talked of in 1963.

Notwithstanding the regime's announced policy of giving priority to agriculture, heavy industry has registered higher gains since 1963, though a large portion of its capacity remains unused. Increases in raw materials, some through importation, have stimulated light industry as well as the overall economy. Gains in numerous industries designated to support agriculture have occurred but not of the magnitude claimed.

Although there is sufficient justification for official claims that the current level of food consumption exceeds that of the 1959-61 period, agricultural production in the socialist sector has failed to make a net per capita gain since 1964 and is substantially below the pre-Leap Forward level. Large imports of grain and substantial production increases on private plots of land account for most of the rise in consumption since 1961. On socialist farms production of food crops in 1966 failed to meet consumption needs for the eighth straight year.

Some crops fared badly

Analyses of other major crops show even more dramatic variance. Acreages of many important industrial crops were modified after 1959 to provide larger areas for food crops, and these acreages have not been completely restored nor have yields increased in proportion commensurate with increases in the application of chemical and natural fertilizers.

Cotton production in 1966 is estimated as less than the 1957-59 average because of reduced acreage and low yields. Soybeans appear to have fared even worse. The decline in acreage since the 1959-61 crisis has more than offset the increase in yields. One exception is sugarcane production, which has risen rapidly in recent years under a special incentive program. Livestock has made fairly steady gains,

but some groups—large animals and draft animals mainly—have not fully recovered from the setback of the Great Leap Forward.

Although exports of agricultural commodities have increased significantly since 1962, they do not appear to have regained the 1959 level. Thus, almost a decade after the Great Leap Forward, which was to solve China's economic problems in a few years, the country's agriculture is still in a state of stagnation. As one authority observed, "It may turn out that the Great Leap will have cost the Chinese economy roughly a decade of growth."

Party struggle could affect output

Mainland China has now entered its Third Five Year Plan—3 years behind schedule—without clearly defining the plan or stating its objectives. Instead, official announcements referred vaguely to "implement more effectively the

National Program for Agricultural Development"—a flashback to the original 12-year plan formulated in 1956 and subsequently abandoned.

In the new plan agriculture retains top priority. However, inferences of increased construction of new enterprises and expanded production of raw materials suggest a stronger orientation to capital construction and an increase in the industrial base. The tone of the new plan is one of caution, and official estimates place the time for modernizing China's economy at least double the original 12-year plan—20 to 30 years or even longer.

For agriculture, prospects are, at best, for a slow, gradual increase—assuming no major disruptions in China's political fabric. There are indications that Mao-Tse-tung is attempting to revitalize the commune system and that he favors accelerating production programs reminiscent of

the Great Leap Forward. The institution of either of these programs would result in dislocations in agriculture leading to lowered production.

The "politics in command" philosophy of the Communist regime ignores the practical and economic problems of production in agriculture; furthermore, its future will depend on the outcome of the present Party struggle.

Two years—1965 and 1966—of reduced food production have very likely reduced already limited stocks. A further decline in food production would place greater requirements on imports of grain, an action which could take a larger proportion of earnings from foreign exchange. Thus, a critical period for agriculture is fast approaching, for if the political unrest of the past few months continues into the current crop season, a serious decline in Mainland China's agricultural production could result.

Argentina Sets New High Goal for Wheat Output

Argentina is planning a sharp increase in the area and production of wheat in the 1967-68 season, according to a recent announcement by the country's Secretary of Agriculture Lorenzo Raggio at the annual National Wheat Festival at Leones, Cordoba Province.

The Secretary called for a planted area of 8 million hectares—an increase of 27 percent over the 1966-67 level and 43 percent higher than the previous 5-year average. This would be the largest wheat acreage since 1938-39. The record was 9,219,000 hectares in 1928-29.

The increase in wheat planting should not, said the Secretary, be achieved at the expense of other crops. Instead, the increase should come from currently unproductive or marginal areas in other crops, or from new areas. He cited Tucuman and Chaco provinces as having the conditions to grow part of their own wheat requirements. He also suggested that in some areas forage wheat could be planted in place of rye or other grasses, and harvested after grazing.

This proposed increase in area, combined with greater emphasis on modern production techniques, could produce a harvest of 12 or 13 million metric tons of wheat, Secretary Raggio said. (The past 5-year average was 7.5 million.) The strong world

demand for wheat as well as Argentina's need for foreign exchange were cited. The increased production, he added, would permit greater sales to traditional foreign customers, and the opening-up of new markets.

Secretary Raggio referred to world food needs, saying that Argentina had sponsored the idea of a World Food Fund, in which it would participate with a quota. Participation should include both the surplus food producing countries and others which could provide financial contributions.

In 1966 the official support prices for the 1966-67 wheat crop were announced at the Wheat Festival. Secretary Raggio did not follow suit this year. He explained this by saying that the government is now developing a new economic policy, especially measures to combat inflation, and that in this situation the new support price levels could not yet be announced. (In March, shortly after the Secretary's talk, Argentina devalued the peso from 245 to a U.S. dollar to 350).

The Secretary stressed the need to reduce costs of production as a part of the "hard battle" against inflation. He assured the farmers that there would be no further increase in freight rates this year.

Following the announcement by the Secretary, Argentina's National Grain Board passed a resolution calling on

farmers to support the campaign for increased planting. The resolution urged that "not one field capable of producing wheat be left unseeded," and that "there not be one farm which does not increase its area in wheat, up to the limit of its possibilities."

—JOSEPH C. DODSON
*U.S. Agricultural Attaché
Buenos Aires*

Kenya's 1966 Crops Good

For Kenya farmers 1966 was a favorable year, with almost every commodity registering increased production, according to a recent speech given by the country's Minister of Agriculture Bruce McKenzie.

In speaking to the Kenya National Farmers Union, Mr. McKenzie pointed out that in cereals the country had reached self-sufficiency in wheat, maize, and rice. Wheat production now provides for all of Kenya's and Uganda's requirements and a considerable quantity goes to Tanzania as well. With the introduction of hybrid varieties, this year's maize (corn) crop is sufficient to provide a million-bag reserve against future shortages. And rice has reached the level which will obviate the necessity of future imports. Only sisal failed to do well.

With regard to coffee, the Minister stressed quality and said that marginal coffee-producing areas would be released for more economic enterprises.

International Institute for Cotton Begins Promotion Activities

The International Institute for Cotton—a research-promotion organization formed last year by some of the world's leading cotton exporters—has launched its campaign to give the fiber maximum exposure in West European and Japanese fashion.

(Members of the Institute are India, Mexico, Spain, Sudan, Tanzania, Uganda, the United Arab Republic, and the United States. For full details on its origins, functions, and financing, see *Foreign Agriculture*, March 14 and June 20, 1966.)

Through the Institute, the countries that produce two-thirds of the Free World's cotton are cooperating in an intensive advertising, sales promotion, and market research program featuring men's and women's apparel, including rainwear. Once this initial campaign is well under way, the Institute will move into utilization research. Its aim is to promote cotton in general—not just one country's cotton—in the face of severe competition from manmade fibers.

This year, the Institute assumes entire responsibility for cotton market development programs in Denmark, France, Germany, Italy, Norway, and the United Kingdom. Similar programs were formerly operated by Cotton Council International (CCI), FAS cooperator in overseas market development. Since initial resources are limited, CCI has subcontracted to the Institute the operations of its cooperative programs with FAS in eight countries for 1967. These include Austria, Belgium, Finland, Japan, the Netherlands, Spain, Sweden, and Switzerland.

Australia Promotes Citrus

Australian oranges will receive increased publicity in Hong Kong—a growing market—in the next few months in a campaign aimed at expanding the market even further.

During the past 5 years, Australia's exports of oranges to the Crown Colony have risen from 779 bushels to 34,124, chiefly because of market development activities. The latest campaign, third of its kind for citrus, will encourage buyers to look for oranges of Australian origin.

The campaign will be financed by the government and citrus industry.



Pen in hand, Read Dunn (left), executive director of the new International Institute for Cotton, and Pierre Harmel, Belgium's Minister of Foreign Affairs, sign treaty making Brussels headquarters of the Institute's European operation.

The Institute will finance the entire European and Japanese operations beginning in 1968.

This year's total budget for market development in Western Europe and Japan is \$3.3 million, compared with the \$2.5 million budgeted by CCI in 1966. Next year, the sum for the new Institute's operations will rise to approximately \$4.5 million.

Seat of the Institute is Washington,

D. C.. In addition to European headquarters in Brussels and Japanese headquarters in Osaka, it has offices in London, Frankfurt, Paris, Milan, and Oslo.

CCI will continue to carry out its cotton market development program in Canada, an economic research program in India, and other activities, but will not be active in countries where the Institute has programs.

Canada Seeks Larger Honey Sales in Britain and Ireland

Canada recently sent a trade mission to the United Kingdom and Ireland to explore the potential for larger honey sales and study merchandising approaches the Canadian honey industry might use.

Just 7 years ago, Canada exported little honey to the United Kingdom. Since then, sales have grown to some 7 million pounds annually, a quarter of total British consumption. Shipment of bulk honey has been declining recently in favor of packaged, brand-name varieties.

The trade mission visited London, Liverpool, Glasgow, and Dublin where its members met with leading honey buyers and all importers of the Canadian product. On their return, they

reported to the newly organized Export Committee of the Canadian Beekeepers Council, charged with working out a specific market development program for honey.

The Department of Trade and Commerce sponsored the three-man mission, organized in cooperation with the Beekeepers Council.

Canada produces only about one-sixth as much honey as the United States, but exports about half as much. U.S. honey exports to the United Kingdom last year totaled about 1.08 million pounds, against Canada's 7 million. However, the United States exported 2.8 million pounds to Canada.

—RICHARD H. ROBERTS
U.S. Agricultural Attaché, Ottawa

"Operation Engrais" Promises Higher Yields for Morocco

By PAUL J. FERREE

U.S. Agricultural Attaché, Rabat

Driven by the need for foreign exchange, Morocco for years worked to expand fertilizer exports while overlooking its own fertilizer needs and poor food-crop yields. Now, however, the country has made a start toward correcting this discrepancy through "Operation Engrais"—"Operation Fertilizer"—a program to fertilize the maximum amount of wheat land possible.

In early July 1966, the Moroccan Ministry of Agriculture started making plans for launching "Operation Engrais." Technicians from the U.S. Agency for International Development participated in these early sessions, while a team of fertilizer experts from the Tennessee Valley Authority helped work out details of the program. Financing from Dn39.4 million (\$7.8 million) of Title IV, Public Law 480 funds provided credit to farmers for fertilizer, seeds, land preparation, and related activities.

A sense of urgency

Widespread drought and resultant damage to the 1966 grain crop lent a sense of urgency to the program, and soon "Operation Engrais" developed into a nationwide effort, coordinated by the Ministries of Agriculture and Interior and the Provincial Governors. The best available extension agents were committed to the project, and before planting—just after the September rains—about 160 agricultural agents had been given special training in fertilizing practices. Blocks of wheat land totaling 494,200 acres in six Provinces were selected to receive applications of 10-20-0 nitrogen-phosphate fertilizer. Some 40.3 million pounds of triple superphosphate were ordered through Moroccan firms, while the Ministry of Finance provided foreign exchange for the import of 44 million pounds of ammonium sulfate, largely from Portugal and Italy.

Despite the shortage of time to mount a project of such

scale, the government ministries proceeded with enthusiasm. Every effort was made to assure that the credit mechanism be expanded, that seed and fertilizer be distributed, and that agricultural agents be on hand to advise farmers.

All available mechanical equipment was brought into use for preparing the land, spreading fertilizer, and seeding. Even so, it is estimated that 60 percent or more of the area selected was planted with animal power, and in many cases the seed and fertilizer were scattered by hand.

By December 31, about 90 percent of the total planned area, or 444,800 acres, had been planted and fertilized. As might be expected in a new program of this size, there were certain difficulties and delays and a few of the eastern Provinces fell somewhat short of their goals.

Top dressing the next step

The next step was a second application of nitrogen fertilizer as a top dressing in early 1967. It had been planned that about 200,000 acres of the wheat area covered by the project would benefit from top dressing, which is rather a new concept to Morocco. The area was reduced considerably, however, because of lack of rain from mid-November through January, and only about 24,000 acres finally received the top dressing.

Closed-circuit educational television, also new to Morocco, was used in instructing extension agents and farmers on the application of the top dressing and improved cultural practices in general. Six television receivers were set up at central points in wheat-growing areas for this year's experimental television programs, and audiences of 70-100 persons in each locality assisted at two telecasts of films especially prepared for the occasion. The television presentations at each center were then followed by practical field demonstrations. Educational television will be expanded next season if this media proves effective in instructing

"Mixed team" plowing near Settat, Morocco.





Personnel at Rabat Experiment Station plant new improved varieties of wheat, including some from the International Wheat and Maize Improvement Center in Mexico.



Above and below, Moroccan farmers spread fertilizer on wheat ground as part of "Operation Engrais." If rains are adequate, steps taken in the program should lead to much-improved wheat yields.



farmers on fertilizer application and other improved practices. Conceivably, some 200 or more television sets could be in use at rural centers by early 1968, compensating somewhat for the shortage of trained agricultural agents.

The plans of "Operation Engrais" were well laid out, and participating officials are generally pleased with progress made thus far. Final outcome now depends on continuation of the all-important rains. The future success of a long-range cereal fertilization program will depend on tangible results being demonstrated by this year's crash program and on the country's willingness to continue diverting some of its fertilizer from the export market to the local farms.

A major fertilizer producer

Morocco is known to have vast reserves of phosphate beds from which some 22 billion pounds of rock phosphate are exported annually to all parts of the world. Also, since June 1965, the Maroc Chemie fertilizer plant at Safi has annually converted raw phosphate into about 220 million pounds of triple superphosphate for export; these facilities are being expanded to produce 440.9 million pounds of TSP yearly, plus 330.7 million pounds of diammonium phosphate, a new product containing nitrogen. In addition, plans are being considered for the production of ammonium sulfate also.

In the past, exports of this locally produced fertilizer were so stressed that much of the domestic cereal crop received virtually no fertilizer at all. Total domestic use of all commercial fertilizers in 1965 was estimated at around 407.9 million pounds, equivalent to 104.7 million

pounds of nitrogen, phosphate, and potash. With an estimated 11.6 million acres in crops each year, this permitted a rate of consumption of only about 9 pounds per acre. Moreover, most of this was used by the so-called modern sector on the high-value irrigated crops like cotton, sugarbeets, vegetables, and citrus.

Traditional farmers, on the other hand, continued much as they had for the past 200 years, with little application or even knowledge, of the effects that can be obtained from fertilizer treatment, use of improved varieties, proper plowing, good seedbed preparation, and other modern farming practices. In the important grain sector, which accounts for 84 percent of total field crop area, only a few of the more progressive private- and government-managed farms used any fertilizer at all before "Operation Engrais."

As a result, Moroccan grain yields have lagged far behind those in many other countries. Aside from fluctuations in exceptionally favorable and unfavorable years, there has been no significant change in cereal yields during the past 30 years. Even in 1965, when the harvest was one of the best on record, wheat averaged the equivalent of only 13 bushels per acre, compared with 26.4 in the United States; barley yields, at an average 16 bushels were less than half those in the United States; and corn yields, at 12.5 bushels, were about one-sixth the U.S. level.

And the severe drought of 1966 further reduced production dropping the wheat yield 38 percent, barley 63 percent, and corn 44 percent. Because of the 1965-66 drought, Morocco this season is having to import nearly 1-1½ times as much wheat as it produced domestically, as well as significant quantities of other cereals.

Pickup in U.S. Trade in Livestock and Meat Products

Both U.S. imports and exports of livestock and meat products rose during January 1967 from a year earlier.

Total imports of red meat during January were 26 percent over those of a year earlier and 14 percent above the December 1966 level.

Takings of beef and veal totaled 82.9 million pounds compared with 58.2 million a year earlier. Most of the gain was in imports of fresh and frozen boneless beef in response to increasing demand for processing meat in this country; at 70 million pounds, imports of these products were up 52 percent from January 1966. Prices for manufacturing-type beef in the United States remain more attractive to foreign suppliers than those in Western Europe.

U.S. IMPORTS OF SELECTED LIVESTOCK PRODUCTS [Product weight basis]

Commodity	January 1966	January 1967
Red meats:		
Beef and veal:		
Fresh and frozen:	1,000	1,000
Bone-in beef:	pounds	pounds
Frozen	574	276
Fresh and chilled	1,250	345
Boneless beef	45,960	70,049
Cuts (prepared)	434	426
Veal	1,592	2,412
Canned corned beef .....	.....	4,328
Canned beef and beef sausage	6,851	1,152
Prepared and preserved	1,580	3,948
Total beef and veal	58,241	82,936
Pork:		
Fresh and frozen	4,122	3,745
Canned:		
Hams and shoulders	16,992	14,741
Other	3,751	3,524
Cured:		
Hams and shoulders	114	130
Other	382	344
Sausage	172	185
Total pork	25,533	22,669
Mutton and goat	2,022	4,275
Lamb	1,698	819
Other sausage	498	479
Total red meat	87,992	111,178
Variety meats	499	324
Wool (clean basis)		
Dutiable	18,956	9,493
Duty-free	9,115	7,026
Total wool	28,071	16,519
	1,000	1,000
Hides and skins:	pieces	pieces
Cattle	58	16
Calf	43	45
Kip	30	24
Buffalo	35	45
Sheep and lamb	1,003	1,159
Goat and kid	1,130	865
Horse	25	21
Pig	181	98
	Number	Number
Live cattle ¹	101,511	58,672

¹Includes cattle for breeding.

U.S. Department of Commerce, Bureau of the Census.

Imports of mutton and goat meat, which also are used primarily in processed meats, totaled 4.3 million pounds, up 111 percent from a year earlier. But pork imports fell 11 percent, reflecting increased domestic supplies.

Imports of fresh, frozen, and chilled beef, veal, and mutton and goat meat covered under the Meat Import Bill (Public Law 88-482) totaled 77.4 million pounds in January. This was up 17 percent from December 1966 and 51 percent from January a year earlier.

Wool imports were down 41 percent from 1966. Hide and skin imports were down—9 percent to 2,300 pieces.

U.S. exports of red meats, including variety meats, were 6 percent above January 1966. This increase more than offset the decline in exports of beef and veal.

Lard exports were up substantially due to increased supplies in the United States. January exports totaled almost 18 million pounds, or 216 percent above a year earlier. Tallow and grease exports were also up, by 41 percent to over 134 million pounds.

Hide and skin exports in January totaled over 3,000 pieces—up 125 percent from a year earlier.

Live cattle exports, at 3,757 head, were 85 percent over shipments in January 1966, while imports were down 42 percent totaling approximately 59,000 head.

U.S. EXPORTS OF LIVESTOCK PRODUCTS [Product weight basis]

Commodity	January 1966	January 1967
	1,000	1,000
Animal fats:	pounds	pounds
Lard	5,665	17,899
Tallow and greases:		
Inedible	94,989	132,508
Edible	210	1,787
Red meats:		
Beef and veal	4,825	2,762
Pork	2,381	4,480
Lamb and mutton	58	70
Sausages:		
Except canned	172	147
Canned	109	46
Other canned meats	525	755
Meat specialties:		
Frozen	101	86
Canned	213	148
Total red meats	8,384	8,494
Variety meats	16,668	18,165
Sausage casings:		
Hog	561	589
Other natural	373	250
Mohair	555	625
	1,000	1,000
Hides and skins:	pieces	pieces
Cattle	935	2,818
Calf	168	142
Kip	73	32
Sheep and lamb	220	156
Horse	2	3
Goat and kid	6	12
	Number	Number
Live cattle	2,031	3,757

Bureau of the Census.

Guatemala To Purchase U.S. Breeding Cattle

A recent Executive Order authorizes Guatemala's Ministry of Agriculture to obtain purebred cattle from the United States. Funds (\$100,000) for the purchase will come from the budget of the Ministry of Agriculture.

A livestock purchase team, headed by the Minister of Agriculture, is scheduled to visit the United States in July 1967 to select and purchase the cattle. These animals will be placed at the Ministry's livestock stations in selected areas of the country where they will be used as foundation stock. Under this program, the offspring from the foundation herd will be distributed to Guatemalan livestock producers for upgrading their cattle.

USSR Sunflowerseed Sold to Japan

The Soviet Union has finalized a sale of 28,000 metric tons of sunflowerseed to Japan. It has also been reported that additional quantities have been contracted for, but details are not now available.

The price for the 7,000 tons to be shipped in June reportedly was \$124 per metric ton, based on 40-percent oil content. A bonus and penalty provision is included, which provides a 1.5-percent increase or decrease in price for each percent of oil content above or below 40 percent.

The price for the June-July shipments of 7,000 tons is reported to be around \$130 per ton of seed, with a specified oil content of 45 percent, also with a bonus/penalty arrangement.

The remaining 14,000 tons to be shipped during August-October were reported to be at lower prices.

The prices at which the offers were made reportedly were "introductory offers," as Bulgarian sunflowerseed recently was sold in Italy at about \$137 per ton. It also was reported that U.S. safflowerseed recently was offered to Japanese buyers at \$112, compared with \$118 in February.

Philippine Exports of Coconut Products

Registered exports of copra from the Philippine Republic during February 1967 totaled 59,020 long tons, compared with 71,680 last year. Despite the decline in total monthly exports, exports to the United States, at 24,320 tons, were significantly above the 20,330 tons of the same month a year ago. Because of below-average rainfall, exports through the first half of 1967 are expected to continue substantially below the high volume of the same period last year.

Coconut-oil exports in February, at 14,500 tons, were sharply below the 27,971 tons of last February. In the same period movements to the United States were 13,500 tons, against 25,293 a year earlier.

Desiccated coconut exports amounted to 4,410 short tons in February, with 3,054 tons moving to the United States. In the same month a year earlier, exports were 5,314 tons, with 3,888 tons going to the United States.

Canada To Cut Flaxseed Area, Expand Rapeseed

Canadian farmers intend to seed 28 percent less flaxseed than last year, according to the March 1 survey by the Dominion Bureau of Statistics. Soybean acreage intentions were down 1 percent, but rapeseed seedings may rise 3 percent to the record level of 1965.

As indicated by last year's data, actual seed acreage may vary significantly from intentions depending upon condi-

tions before and during seeding, availability of good quality seed, the market outlook, and possible effect of the intentions report itself on farmers' plans.

CANADIAN OILSEED ACREAGE					
Oilseed	Seeded acreage			Intentions ¹	
	1964	1965	1966	1966	1967
	1,000	1,000	1,000	1,000	1,000
	acres	acres	acres	acres	acres
Flaxseed	1,978	2,320	2,070	2,130	1,493
Rapeseed ²	791	1,435	1,388	1,368	1,424
Soybeans ³	231	265	268	275	265

¹Based on survey of farmers as of March 1. ²Prairie Provinces only. ³Ontario only; estimate for Manitoba unavailable. Dominion Bureau of Statistics, Ottawa.

The indicated decline in flaxseed acreage reflects a shift towards increased acreage of wheat and feedgrains in response to relatively low flaxseed prices.

Dutch Tobacco Imports Decline

Gross imports of tobacco (including leaf, stems, and scrap) into the Netherlands in 1966 totaled 98.4 million pounds—down 6.6 percent from the 105.4 million imported in 1965. The United States supplied 30.3 million in 1966, or 30.8 percent, compared with 33.6 million, or 31.9 percent, in 1965.

Other principal sources in 1966 included Rhodesia-Zambia-Malawi 16.6 million pounds, West Germany (largely Indonesian-grown tobacco) 13.7 million, and Brazil 8.8 million.

GROSS IMPORTS OF UNMANUFACTURED TOBACCO INTO THE NETHERLANDS ¹				
Origin	1964	1965	1966	
	1,000	1,000	1,000	
	pounds	pounds	pounds	
United States	30,095	33,574	30,278	
Rhodesia-Zambia-Malawi	13,731	16,671	16,563	
Germany, West ²	16,113	14,090	13,662	
Brazil	9,277	9,037	8,768	
Belgium ²	5,578	5,502	5,597	
Republic of South Africa	4,187	4,429	4,557	
Turkey	1,239	1,752	1,933	
India	3,655	3,043	1,757	
Dominican Republic	2,048	1,576	1,678	
Philippines	1,658	1,971	1,675	
Paraguay	1,581	1,341	1,235	
Cuba	560	1,221	1,100	
Italy	2,033	1,241	906	
Greece	741	822	833	
Canada	834	725	642	
Thailand	443	344	461	
Argentina	1,236	712	280	
Others	4,846	7,329	6,449	
Total	99,855	105,380	98,374	

¹Includes stems and waste. ²Mainly re-exports.

Rise in British Cigarette Sales

Retail sales of cigarettes in the United Kingdom were at a record high in 1966—117.7 billion pieces, compared with 112.0 billion in 1965.

Sales of filter-tipped cigarettes last year accounted for 60.7 percent of the total, compared with 53 percent in 1965 and 41.8 percent in 1964. With the continued growth in filter-tipped sales, the average finished weight per 1,000 cigarettes continued to drop, amounting to only 1.90 pounds in 1966 against 1.97 pounds in 1965. The increased number of cigarettes sold last year, however, resulted in a rise in total manufactured weight of cigarettes, from

220.7 million pounds in 1965 to 223.5 million last year.

Sales of smoking mixtures for pipes and hand-rolled cigarettes dropped from 30.7 million pounds in 1965 to 29.7 million in 1966. Snuff sales last year totaled 700,000 pounds, down 100,000 pounds from 1965, while cigar consumption rose to 800 million pieces from 700 million.

India's Tobacco Exports Lag

India's exports of unmanufactured tobacco in the first 9 months of 1966, at 57.5 million pounds, were little more than half the 111.3 million exported during January-September 1965. A sharp drop in the Soviet Union's purchases accounted for most of the decline.

Exports to the Soviet Union totaled 4.4 million pounds in January-September 1966, compared with 48 million for the same period of 1965. Purchases by the United Kingdom also dropped sharply, totaling 25.4 million in January-September 1966, compared with 35.1 million in the first 9 months of 1965.

Increases were recorded in 1966 exports to West Germany and Japan. West Germany took nearly 3 million pounds of Indian leaf in January-September 1966, against none in 1965; Japan's purchases were 3.1 million, compared with 1.8 million.

UAR To Expand Rice Exports

The United Arab Republic plans to export 400,000 metric tons of rice during 1966-67—100,000 more than in 1965-66. Contracts have already been let for 300,000 tons, valued at \$50 million.

To reduce domestic consumption and release more rice for export, the government in late September doubled the product's retail price. Also, bonuses are being offered for farm deliveries in excess of quota. With additional water available from the High Dam, increased acreage will be allotted to rice this spring.

Mexican Strawberry Production Lower

Mexican strawberries in the Irapuato area were severely damaged by a series of frosts during January and February and heavy rains in December. There was lighter frost damage in the Zamora area.

Exports of frozen strawberries to the United States are expected to be 60 to 65 million pounds in calendar year 1967 compared with 83 million pounds in 1966. Shipments of fresh berries are expected to be about double the 10 million pounds of last season. (The fresh strawberry season begins in November and ends in May.)

Last year the production of strawberries increased about 100 percent over 1965. This rapid expansion brought in a large number of inexperienced growers and several new freezers. Either because of the rapid expansion or poor quality of some lots, storage stocks in the southwestern United States rose to record levels. Also, a few growers did not honor their contracts to deliver sufficient berries to the freezer who advanced their cash costs of growing strawberries. In view of these losses and the shorter 1967 crop, several freezers may not pack berries this year.

In the Zamora area most growers have shifted from the Klondike to the higher yielding varieties such as Fresno, Solano, and Tioga. A few years ago the Klondike was the variety preferred by freezers, but yields were low and freezers did not pay a premium.

If 1967 weather conditions had been more nearly normal and with the higher yielding varieties in Zamora, production could have been near the record 1966 pack. However, with the late start of the 1967 season, the crop could show a further reduction if the rainy season should be earlier than normal. Some processors are estimating exports of only 50 million pounds.

Two new freezers are under construction near Lake Chapala, which is a few miles south and east of Guadalajara. The promoters are hopeful that the moderating influence of the lake will lessen frost damage. These freezers will be in operation for the 1968 crop.

The sharp upward trend in production is likely to resume next season if weather is more normal. Thus, export of both fresh and frozen berries may be higher than either 1966 or 1967.

Several freezers are diversifying with such crops as asparagus, broccoli, and brussel sprouts. They plan to concentrate on intensive labor crops, as their principal advantage over U.S. growers is in labor costs. Such crops would extend the use of their freezer capacity.

U.S. IMPORTS OF FROZEN STRAWBERRIES FROM MEXICO

Month	1964	1965	1966	1967
	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.
January	0.7	1.5	2.2	3.6
February	1.8	4.5	6.2	12.2
March	13.0	9.3	12.7	....
April	9.6	13.0	22.0	....
May	5.6	7.0	15.0	....
June	4.2	5.9	7.3	....
July	2.8	3.1	5.2	....
August .....	.8	1.9	3.3	....
September .....	.6	.6	2.5	....
October .....	.1	.9	1.7	....
November .....	.2	1.9	2.5	....
December .....	.3	2.2	2.2	....
Total	39.7	51.8	82.8	....

¹Preliminary.

U.S. IMPORTS OF FRESH STRAWBERRIES FROM MEXICO¹

Month	1963	1964	1965	1966
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds
November	394	464	746	870
December	708	931	1,256	3,080
January	210	722	1,945	2,730
February	538	729	1,849	23,700
March	1,357	1,273	2,288	.....
April	354	921	1,519	.....
May	233	111	176	.....
Total	3,794	5,151	9,779	.....

¹The Mexican season for fresh marketing begins in November of the year shown and ends in May of the following year.

²Preliminary.

Argentina's Canned Fruit Pack Increases

Argentina's 1967 canned deciduous fruit pack has been forecast at 2,352,000 cases—up 1,510,000 from the reduced 1966 pack, which reflected severe weather damage to fruit crops. Peaches, which are the largest single item, are nearly three time the 1966 level. Fruit salad, pears, and fruit cocktail more than doubled their 1966 production, while apricots and cherries also showed sharp gains.

Exports during calendar 1967 may reach 500,000 cases, or more than triple the 1966 quantity of 158,000. Ship-

ments during 1965 totaled 354,000 cases. Argentina's major foreign markets are West Germany, the United Kingdom, and Venezuela.

ARGENTINA'S CANNED DECIDUOUS FRUIT PRODUCTION		
Item	Year ending Nov. 30	
	Revised 1966	Forecast 1967
	1,000 24/2½ cases	1,000 24/2½ cases
Apricots	15	22
Fruit cocktail	10	24
Fruit salad	69	196
Peaches	691	1,995
Pears	46	98
Sweet and sour cherries	11	17
Total	842	2,352

Canned peach production in 1967 is forecast to reach 1,995,000 cases—up sharply from the reduced 1966 pack of 691,000. Peaches generally account for over 80 percent of canned deciduous fruit production. Exports during the 1967 marketing year may approximate 490,000 cases—nearly seven times those of the previous year, but equal to the 1964 level.

ARGENTINA'S SUPPLY AND DISTRIBUTION OF CANNED PEACHES		
Item	Year ending Nov. 30	
	Revised 1966	Forecast 1967
	1,000 24/2½ cases	1,000 24/2½ cases
Beginning stocks (December 1)	24	15
Production	691	1,995
Total supply	715	2,010
Exports	74	490
Domestic disappearance	626	980
Ending stocks (November 30)	15	540
Total distribution	715	2,010

Greece May Increase 1967-68 Cotton Area

Preliminary estimates by the Hellenic Cotton Board indicate that area devoted to the 1967-68 cotton crop in Greece may be around 5 percent larger than the 1966-67 area of 350,000 acres. Most of the increase will be under irrigation. The 1966-67 cotton crop of 390,000 bales was slightly above average annual production of 377,000 bales in the 1960-64 period but was produced on an area only three-fourths as large.

In the 1965-66 season, Coker 100W accounted for 73 percent of all cotton grown in Greece; however, this variety is fast being replaced by a new variety, 4S. This variety is expected to account for about 60 percent of total cotton area in 1967.

During the 1966-67 harvest season, about 60 cotton-picking machines were used in Greece. Some consideration is being given to importing additional machines; however, the need for additional lint cleaners at the gins is currently a limiting factor in increased use of mechanical pickers. Also, the present tenure system results in many small holdings that do not lend themselves to mechanization.

Exports of cotton in the first 5 months (August-December) of 1966-67 amounted to 54,000 bales, compared with

37,000 in the same months of 1965-66. During the full 1966-67 season, total exports are expected to be about 200,000 bales, only slightly above the 1965-66 level of 192,000. Yugoslavia has been the largest single buyer of Greek cotton in recent years. East Europe countries have taken around half of total exports.

In recent years, Greece has imported increasing quantities of raw cotton. From only 10,000 bales in 1963-64, imports jumped to 46,000 bales in 1964-65 and have since remained at around that level. Turkey supplies most of these imports.

Consumption of raw cotton in Greece is expected to reach a record 220,000 bales in 1966-67, 10 percent above 1965-66 consumption and 43 percent above average annual consumption of 154,000 bales in the 1960-64 period. Greek exports of cotton yarns and fabrics in calendar 1966 were valued at \$12 million.

Italy Imports and Uses More Cotton

Italy's imports and consumption of cotton in the first several months of the 1966-67 season were considerably higher than in the same months a year earlier. Imports from principal suppliers in the August-November period of 1966 in thousands of bales (1965 figures in parentheses) were the United States 66 (37), Mexico 87 (70), Turkey 53 (38), Sudan 23 (21), the USSR 19 (17), Egypt 17 (10), Brazil 13 (3), Peru 14 (10), and Uganda 12 (1).

Consumption of raw cotton in August-December 1966 totaled 447,000 bales, 25 percent above the 357,000 bales used in the same period of 1965. Consumption in the full 1966-67 season will probably reach 1.1 million bales and thus establish a post World War II record. Consumption in 1965-66 totaled slightly over 1.0 million bales. Imports of cotton yarns, threads, and fabrics in recent months have been running well above the rate of a year ago, while exports of cotton yarns, threads, and fabrics are only slightly below the rate of a year ago.

Stocks on hand at mills on August 1, 1966, totaled 293,000 bales. By November, stocks had dropped to 250,000 bales but were replenished to 277,000 bales by January 1 of 1967.

Italy produced 12,000 bales of cotton in 1966-67, compared with 20,000 in 1965-66.

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Highlights of Trade and Agriculture of Thailand

Resources:—Thailand, which is a little smaller than Texas, stretches 1,000 miles through the heartland of Southeast Asia. This progressive country has a population of over 30 million, and is divided by a pattern of rivers and mountains into four natural geographic regions. The thin Peninsula Region extends from Malaya to Burma and has the poorest soil. The Central Region is an alluvial basin and contains the major population centers. Mountains and high hills dominate the North Region. The problematical and long-neglected Northeast Region—an area 15 percent larger than South Vietnam—poses the most serious challenge to planners because of poor agricultural conditions.

Agriculture:—Unique in Southeast Asia is the fact that 90 percent of Thailand's cultivated land is farmed by those owning their own land. There is little need for land reform programs. Thailand's economic planners concentrate on diversifying crops, providing increased irrigation facilities, developing markets in distant rural areas to bring farmers into a monetized market society, and developing a network of roads to connect rural markets with urban centers.

Food situation:—Rice is the principal crop and accounts for 50 percent of the value of total agricultural production. Harvests have averaged 10 million metric tons per year since 1963, and future increases are expected to derive from greater use of fertilizer and improved irrigation. Rubber ranks second in the national economy, but the generally low world price for this product is encouraging producers to switch to more profitable palm oil.

Government efforts to introduce new crops and provide farmers with higher cash returns have met with considerable success. Corn harvests, which topped 100,000 tons a decade ago, now exceed a million tons a year. Almost all corn is exported, but this crop could become a domestic feedgrain for Thailand's infant livestock and poultry industry.

Pulses, sesame, cotton, jute, and kenaf production has also increased rapidly during the past decade. Sorghum is

one of the newest crops in Thailand and 1966 production of 150,000 metric tons was triple the 1965 harvest. Sorghum grows well in the droughty Northeast Region and provides a good cash crop.

Foreign trade:—Agricultural products make up the bulk of all exports, and about 45 percent of total export values comes from just two products, rice and rubber. Thailand replaced Burma as the world's leading exporter of rice in 1964 and has held first place since. Thailand's record export of 1.9 million metric tons in 1965 is expected to be matched or surpassed in 1967.

Rubber earns about 15 percent of export values and rubber exports in recent years have averaged just over 200,000 tons per year. Corn has come up fast as an agricultural export item with Japan accepting almost all that Thailand can ship. Exports of corn to Japan in 1966 are estimated at 1.1 million metric tons. Chief markets for Thai exports are Japan, Malaysia, Hong Kong, the United States, and Singapore.

Agricultural trade with the United States:—The United States does not have a P.L. 480 program with Thailand. American exports to Thailand consist chiefly of cotton, tobacco, wheat flour, and small quantities of vegetable oil and fats. New U.S. products moving into Thailand are wheat, cheese, turkeys, and livestock for breeding.

Factors affecting agricultural trade with the United States:—Thailand is essentially self-sufficient in production of food, but does not supply the variety of foods expected by Bangkok's growing international population. A growing demand for poultry and dairy products is expected, and these the United States can supply. The recent buildup in textile manufacturing has created increased demand for U.S. cotton; the United States now supplies 75-85 percent of Thailand's cotton imports. Wheat exports to Thailand will increase if American sellers can supply shipments of less than full cargo.

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